#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: SONY-50T5470.01

Inventor(s):

Fusao Ishii

Application No.:

Group Art Unit:

Filed:

03/30/04

Examiner:

Title:

METHODS FOR PATTERNING SUBSTRATES HAVING ARBITRARY AND

UNEXPECTED DIMENSIONAL CHANGES

Commissioner of Patents P. O. Box 1450 Alexandria, VA 22313-1450

Sir:

Information Disclosure Statement Submitted Pursuant to 37 C.F.R. 1.97(b)

The citations referenced herein, copies attached, may be material to the examination of the above-identified application and are, therefore, submitted in compliance with the duty of disclosure as defined in 37 C.F.R. 1.56. The Examiner is requested to make these citations of official record in the application.

This Information Disclosure Statement submitted in accordance with 37 C.F.R. 1.97(b) is not to be construed as a representation that a search has been made, that additional items material to the examination of this application do not exist, or that any one or more of these citations constitute prior art under 35 U.S.C. 102.

The Examiner's attention is respectfully directed to the following U.S. Patents: Pat. No. Pat. Title **Grant Date** ALIGNMENT METHOD, ALIGNMENT APPARATUS, PROFILER, EXPOSURE 6,559,924 05/06/03 APPARATUS, EXPOSURE APPARATUS MAINTENANCE METHOD, SEMI-CONDUCTOR DEVICE MANUFACTURING METHOD, AND SEMICONDUCTOR MANUFACTURING FACTORY SYSTEM AND METHOD FOR PERFORMING LITHOGRAPHY ON A SUBSTRATE 03/04/03 6,529,262 6,312,134 SEAMLESS, MASKLESS LITHOGRAPHY SYSTEM USING SPATIAL LIGHT 11/06/01 **MODULATOR** HIGH-THROUGHPUT, HIGH-RESOLUTION, PROJECTION PATTERNING 5,652,645 07/29/97 SYSTEM FOR LARGE, FLEXIBLE, ROLL-FED, ELECTRONIC-MODULE **SUBSTRATES** 4,924,257 SCAN AND REPEAT HIGH RESOLUTION PROJECTION LITHOGRAPHY 05/08/90 SYSTEM 5,285,236 LARGE-AREA HIGH-THROUGHPUT, HIGH-RESOLUTION PROJECTION 02/08/94 **IMAGING SYSTEM** 5,291,240 NONLINEARITY-COMPENSATED LARGE-AREA PATTERNING SYSTEM 03/01/94 5,710,619 LARGE-AREA, SCAN-AND-REPEAT, PROJECTION PATTERNING SYSTEM 01/20/98 WITH UNITARY STAGE AND MAGNIFICATION CONTROL CAPABILITY 5,721,606 LARGE-AREA, HIGH-THROUGHPUT, HIGH-RESOLUTION, SCAN-AND-02/24/98 REPEAT PROJECTION PATTERNING SYSTEM EMPLOYING SUBFULL MASK 6,304,316 MICROLITHOGRAPHY SYSTEM FOR HIGH-RESOLUTION LARGE-AREA 10/16/01 PATTERNING ON CURVED SURFACES 5.894.350 METHOD OF IN LINE INTRA-FIELD CORRECTION OF OVERLAY ALIGNMENT 04/13/99 MASKLESS PHOTOLITHOGRAPHY SYSTEM THAT DIGITALLY SHIFTS MASK 6.251,550 06/05/01 DATA RESPONSIBILY TO ALIGNMENT DATA ELECTRONICALLY CONTROLLED UNIVERSAL PHASE-SHIFTING MASK 6,486,939 11/26/02 FOR STEPPER EXPOSURE SYSTEM

6,121,626	METHOD AND SYSTEM OF EXPOSURE WITH A UNIVERSAL DYNAMIC MASK AND CHARGE COUPLED DEVICE IMAGE FEEDBACK CONTROL	09/19/00
6,342,703	EXPOSURE APPARATUS, EXPOSURE METHOD AND DEVICE MANUFACTURING METHOD EMPLOYING THE EXPOSURE METHOD	01/29/02
6,195,153	SCANNING TYPE EXPOSURE DEVICE HAVING INDIVIDUALLY ADJUSTABLE OPTICAL MODULES AND METHOD OF MANUFACTURING SAME	02/27/01
4,780,617	METHOD FOR SUCCESSIVE ALIGNMENT OF CHIP PATTERNS ON A SUBSTRATE	10/25/88
5,493,402	EGA ALIGNMENT METHOD USING A PLURALITY OF WEIGHTING COEFFICIENTS	02/20/96
5,936,712	EXPOSURE METHOD AND APPARATUS INCLUDING FOCUS CONTROL	08/10/99
6,261,728	MASK IMAGE SCANNING EXPOSURE METHOD	07/17/01
6,437,354	EXPOSURE METHOD AND SCANNING-TYPE EXPOSURE APPARATUS	08/20/02
6,084,656	PROGRAMMABLE MASK FOR EXPOSURE APPARATUS	07/04/00

The Examiner's attention is respectfully directed to the following U.S. Patents:

<u>Pub. No.</u>	<u>Title</u>	<u>Pub. Date</u>
2003/0025979	SURFACE DISTORTION COMPENSATED PHOTOLITHOGRAPHY	02/06/03
2003/0025981	MICROMACHIINED OPTICAL PHASE SHIFT DEVICE	02/06/03

Please direct all correspondence concerning the above-identified application to the following address:

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Respectfully submitted,

Date: 3/30/2004

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Attorney Docket No.: SONY-50T5470.01

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### Patent Application

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### Form 1449

### **U.S. Patent Documents**

Examiner						Sub-	Filing
Initial	No.	Patent No.	Date	Patentee	Class	class	Date
	Α	6,559,924	05/06/03	Ina et al.	355	53	05/30/01
	В	6,529,262	03/04/03	Mei et al.	355	47	04/12/00
	С	6,312,134	11/06/01	Jain et al.	359	855	01/23/99
	D	5,652,645	07/29/97	Jain	355	53	07/24/95
	E	4,924,257	05/08/90	Jain	355	53	10/05/88
	F	5,285,236	02/08/94	Jain	355	53	09/30/92
	G	5,291,240	03/01/94	Jain	355	53	10/27/92
	Н	5,710,619	01/20/98	Jain et al.	355	50	10/31/95
		5,721,606	02/24/98	Jain	355	53	09/07/95
	J	6,304,316	10/16/01	Jain et al.	355	53	10/22/98
	К	5,894,350	04/13/99	Hsieh et al.	356	399	06/12/98
	L	6,251,550	06/26/01	Ishikawa	430	22	07/07/99
	М	6,486,939	11/26/02	Lin	355	53	05/07/01
	N	6,121,626	09/19/00	Lin	250	548	09/17/98
	0	6,342,703	01/29/02	Koga et al.	250	548	10/20/99
	Р	6,195,153	02/27/01	Shimizu	355	53	05/21/99
	Q	4,780,617	10/25/88	Umatate et al.	250	548	10/03/86
	R	5,493,402	02/20/96	Hirukawa	356	400	04/17/95
	S	5,936,712	08/10/99	Ito et al.	355	55	02/04/98
	T	6,261,728	07/17/01	Lin	430	30	10/19/98
	U	6,437,354	08/20/02	Nara et al.	250	548	07/05/00
	V	6,084,656	07/04/00	Choi et al.	355	71	08/28/98

**U.S. Published Patent Applications** 

Examiner Initial	No.	Pub. No.	Pub. Date	Patentee	Class	Sub- class	Filing Date
	W	2003/0025979	02/06/03	Chan et al.	359	279	12/28/01
	X	2003/0025981	02/06/03	Ishikawa et al.	359	290	07/31/01

Foreign Patent or Published Foreign Patent Application

Examiner		Document	Publication	Country or		Sub-	Trans	lation
Initial	No.	No.	Date	Patent Office	Class	class	Yes	No
	Υ							

### Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	Z	
Examiner		Date Considered

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.